



# SPEC® CFP2006 Result

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## Itaotec

### SPECfp®\_rate2006 = 254

### Servidor Itaotec MX223 (Intel Xeon X5680)

### SPECfp\_rate\_base2006 = 246

CPU2006 license: 9001

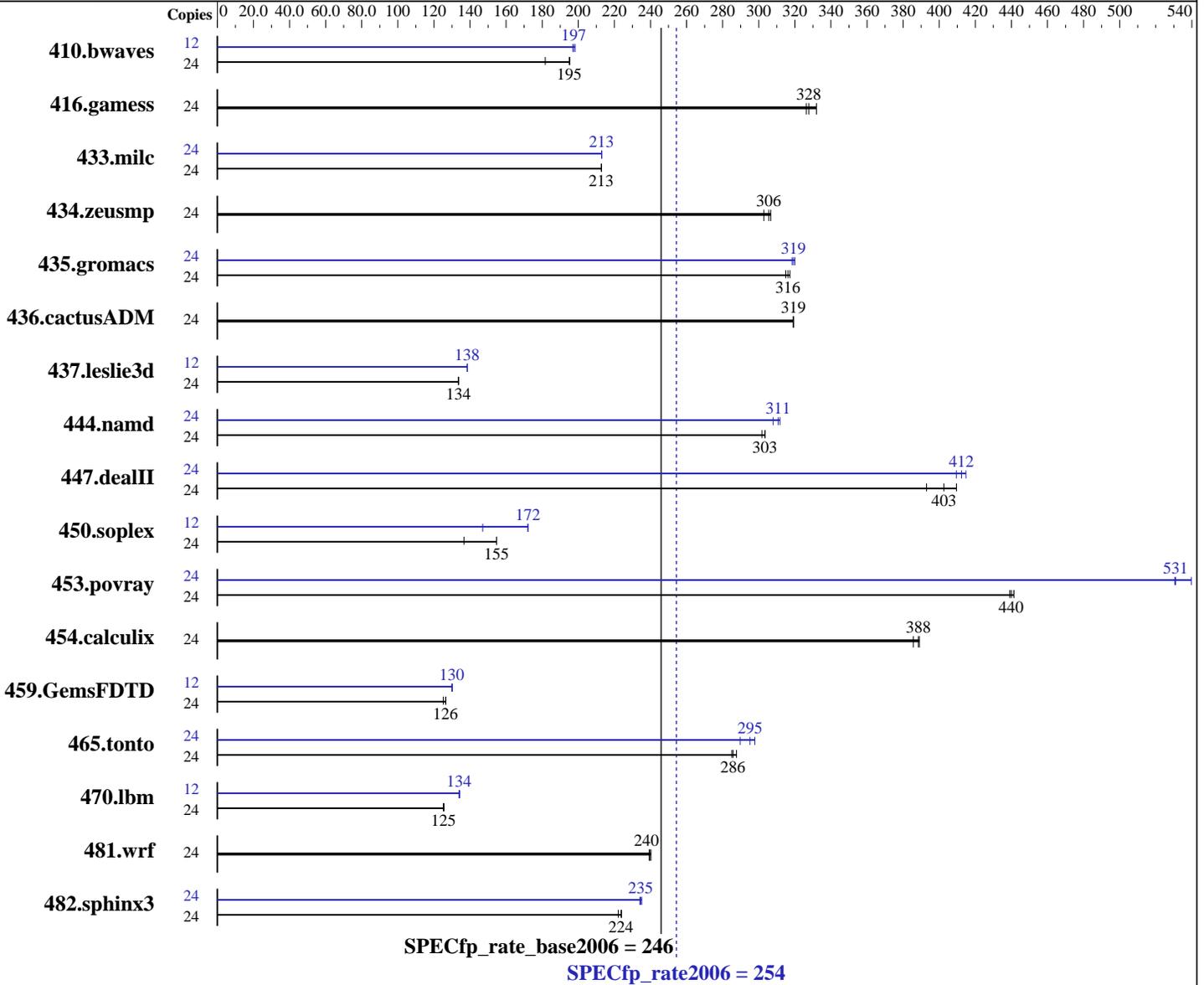
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Aug-2010

Hardware Availability: Apr-2010

Software Availability: Apr-2010



#### Hardware

CPU Name: Intel Xeon X5680  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

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#### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-smp  
 Compiler: Intel C++ and Fortran Professional Compiler 11.1 for Linux  
 Build 20100414 Package ID: l\_cproc\_p\_11.1.072, l\_cprof\_p\_11.1.072  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)

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L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12 x 4GB, DDR3-1333, Dual Rank, CL 9, ECC)  
Disk Subsystem: 1 x 160 GB SATA-2, 7200 RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1795	182	1670	195	<u>1672</u>	<u>195</u>	12	<u>826</u>	<u>197</u>	822	198	828	197
416.gamess	24	1416	332	1440	326	<u>1434</u>	<u>328</u>	24	1416	332	1440	326	<u>1434</u>	<u>328</u>
433.milc	24	<u>1035</u>	<u>213</u>	1035	213	1035	213	24	1035	213	1034	213	<u>1035</u>	<u>213</u>
434.zeusmp	24	<u>715</u>	<u>306</u>	721	303	712	307	24	<u>715</u>	<u>306</u>	721	303	712	307
435.gromacs	24	540	317	<u>542</u>	<u>316</u>	544	315	24	538	318	535	320	<u>537</u>	<u>319</u>
436.cactusADM	24	<u>899</u>	<u>319</u>	898	319	899	319	24	<u>899</u>	<u>319</u>	898	319	899	319
437.leslie3d	24	<u>1689</u>	<u>134</u>	1689	134	1689	134	12	814	139	<u>815</u>	<u>138</u>	815	138
444.namd	24	634	303	<u>634</u>	<u>303</u>	638	302	24	625	308	<u>619</u>	<u>311</u>	617	312
447.dealII	24	<u>682</u>	<u>403</u>	670	410	699	393	24	671	409	662	415	<u>666</u>	<u>412</u>
450.soplex	24	1465	137	1294	155	<u>1294</u>	<u>155</u>	12	681	147	581	172	<u>582</u>	<u>172</u>
453.povray	24	291	439	289	441	<u>290</u>	<u>440</u>	24	241	531	237	540	<u>240</u>	<u>531</u>
454.calculix	24	<u>510</u>	<u>388</u>	513	386	509	389	24	<u>510</u>	<u>388</u>	513	386	509	389
459.GemsFDTD	24	2034	125	<u>2014</u>	<u>126</u>	2011	127	12	<u>979</u>	<u>130</u>	979	130	978	130
465.tonto	24	<u>826</u>	<u>286</u>	821	288	828	285	24	793	298	<u>800</u>	<u>295</u>	815	290
470.lbm	24	2627	126	<u>2631</u>	<u>125</u>	2632	125	12	1228	134	1231	134	<u>1231</u>	<u>134</u>
481.wrf	24	1116	240	1120	239	<u>1119</u>	<u>240</u>	24	1116	240	1120	239	<u>1119</u>	<u>240</u>
482.sphinx3	24	2106	222	2088	224	<u>2091</u>	<u>224</u>	24	1998	234	<u>1993</u>	<u>235</u>	1989	235

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.

## General Notes

This result was measured on the Servidor Itaotec MX223.  
The Servidor Itaotec MX203 and the Servidor Itaotec MX223 are electronically equivalent.



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CPU2006 license: 9001  
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Tested by: Itaotec

Test date: Aug-2010  
Hardware Availability: Apr-2010  
Software Availability: Apr-2010

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64

Fortran benchmarks:  
ifort -m64

Benchmarks using both Fortran and C:  
icc -m64 ifort -m64

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -DSPEC\_CPU\_LP64  
433.milc: -DSPEC\_CPU\_LP64  
434.zeusmp: -DSPEC\_CPU\_LP64  
435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
437.lelie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
450.soplex: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static



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## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -DSPEC\_CPU\_LP64  
433.milc: -DSPEC\_CPU\_LP64  
434.zeusmp: -DSPEC\_CPU\_LP64  
435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
437.leslie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -opt-prefetch

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -ansi-alias -auto-ilp32

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## Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -auto -inline-calloc -opt-malloc-options=3

### Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes



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Test sponsor: Itautec

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Tested by: Itautec

Software Availability: Apr-2010

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.1-linux64-revE.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.1-linux64-revE.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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